well & compactly reported, but more details should have been given, and especially of the clinical phenomena in the course of the disease in the cases which recovered.

WB

On some complications of Enteric fever.

by

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In what follows it is my intention to make a short analysis of 750 cases of Enteric fever which were under my care in Belvidere Fever Hospital, with special reference to the relative frequency of occurrence of certain symptoms and complications, and to give a detailed history of those cases in which the complications are of rare occurrence.

The period over which the observation of these cases took place, extended from September 1885 till March 1886 and included a severe epidemic of Enteric fever occurring in Glasgow in the autumn of 1884.

The cases were unselected and were all well marked; many doubtful ones and those that looked like enteric but ran a very

short course being left out of account.

The diagnostic points chiefly relied upon were – 1st The course of the temperatures and 2nd The occurrence of rose-spots.

The treatment employed was mainly expectant, the only routine followed being with regard to diet which was almost invariably milk and beef-tea till convalescence set in.

Out of the 250 cases 40 were fatal giving a mortality of 16 per cent. The mortality among males was 16·9 and among females 14·4 per cent.

Of the 40 fatal cases all but two died during the course of the fever and these two both succumbed to tubercular disease. In one case it was developed out of the fever without any interval, in the

when there was an interval of apparent convalescence.

Perforation of the bowel was the fatal complication in 16 out of the 40 cases which did not recover. Among males nearly one half of the fatal cases had perforation of the bowel but the proportion among females was much less, in 15 deaths there being only 4 cases of perforation.

Of the total number of cases admitted with Enteric fever 6·4 per cent had perforation.

The diagnosis of this complication was not confirmed in all the cases by post-mortem examination but where this was not done, the symptoms were well-marked and unmistakable. The points chiefly relied upon, and which were always found in those cases where a

post-mortem was obtained, were, the collapsed state of the pulse and the regurgitation of bilious matter from the stomach without effort.

Abdominal pain and tenderness were sometimes not complained of when the patient was far advanced in the disease.

In a few cases where the patient had been exhausted by a protracted illness, and especially by repeated haemorrhages, it was impossible to tell at what time the perforation took place

Out of the 16 cases, perforation took place in the 2nd week in two of them, in the 3rd week in six, in the fourth week in 4, in the 5th week none and in the 6th week one.

In all the cases except two.

diarrhoea was a marked feature of the case from the beginning of the illness. In these two cases the bowels were confined and the perforation in each case took place in the 4th week of the disease. In four cases, haemorrhage from the bowel preceded the symptoms of peritonitis. In one or two instances there were what seemed to be symptoms of peritonitis and these were followed by complete recovery. The symptoms however were never extreme and the patient did not sink into the state of complete collapse usually observed in fatal cases. There were, however, vomiting with abdominal distension and pain, thoracic breathing, and a weak and quick pulse and it is probable

that there was some peritonitis, but whether from perforation or not, could not be stated.

In one case however, partial recovery from actual perforation did occur.

The patient was a woman aged 27, admitted on 4th Feb. 18th 1884, having been ill for twelve days with general pains and diarrhoea. She was very anaemic and had been laid up for ten weeks after her confinement shortly before she took this illness.

Shortly after admission she complained of pain in the abdomen and had several loose pea-soup motions. There were a few rather doubtful rose spots. The temperatures were high

On 4th Feb 22nd she had persistent vomiting and shortly afterwards a swelling was noticed in the abdomen extending from the lower edge of the liver in the direction of the umbilicus.
This was extremely tender to the touch but devoid of fluctuation. It disappeared in a few days and the vomiting ceased.
On March 10th (37th day of illness) the morning temperature showed some tendency to fall, but the bowels still continued loose and the diarrhoea was particularly obstinate to treatment.
On the beginning of April the temperature was normal both morning and evening but shortly after, it rose again

the bowels continuing more or less loose all the time.

On April 25th patient was seized with violent abdominal pain. Distension followed and she became partially collapsed. Opium was given hypodermically and by the mouth with very small quantities of iced milk and brandy.

From this state she gradually recovered and by the beginning of May was comparatively well except for occasional vomiting and looseness of the bowels.

She never completely rallied however and on 11th May she gradually sank and died evidently from asthenia.

At the post mortem examination the thoracic organs were found healthy.

The peritoneum showed signs of peritonitis which did not appear to be recent. In the right iliac region the intestines were glued together and to the abdominal wall, and in this region also was a large abscess having its walls formed partly by the matted intestines and partly by the abdominal wall and containing pus and faeculent matter. This had evidently resulted from the perforation which occurred probably on the 25th April.
In the small intestine were numerous pigmented cicatrices evidently the remains of old ulcers. The large intestine from the ileo-colic valve to the rectum was studded with raw ulcers

The perforation could not be found. Probably it was situated about the caecum.

Of the remaining 74 fatal cases 9 died of the fever pure and simple, either when it was at its height or towards the end of its course from asthenia.

In 5 out of those 9 cases, the temperatures were not more than moderately high, averaging about 102° or 103 ½ Fahr.

In three cases they were very high, usually above 104°, but in one of those death did not take place till the temperature, at the end of the fourth week, had become nearly normal.

In one case the temperatures were low during the first three weeks but during the

fourth and fifth they became very high and death took place without complication on the 35th day of illness.

Pyrexia, per se, was not treated unless the temperature remained persistently over 104°. When this occurred, cold applications to the abdomen with the internal administration of Quinine or Antipyrin were employed, usually with the effect of reducing the temperature but often without any corresponding improvement in the general condition of the patient. Cold baths were not used.

The other complications which caused death were:— hemorrhage from the bowel (in 6 cases) empyema, pneumonia, embolism.

Cancrum oris, convulsions, cerebral hemorrhage and acute spinal paralysis, each in one case.
As before stated two of the cases died from tubercular disease after the fever had run its course

Hemorrhage from the bowel occurred in 16 out of 750 cases and in 11 instances the patient died. Death, however, did not in all these cases take place as the direct result of the hemorrhage. In four cases perforation occurred after the hemorrhage and in one case the patient sank from asthenia some time after the hemorrhage had ceased In the remaining six cases death was evidently

due directly to the occurrence of this complication.

The time of occurrence of the hemorrhage was as follows:— in the 2nd week 4 cases, in the 3rd week 5 cases, in the 4th week 4 cases, in the 5th week 2 cases and in the 7th week one case.

In nine cases there had been either no diarrhoea or a constipated condition of the bowels, and in the remaining seven cases, the bowels had been loose previous to the occurrence of the hemorrhage

In all the five cases which recovered, the bowels had been confined. In two of these the hemorrhage took place in the 2nd week of the disease and of the other three, one was in the 3rd, one in the 5th and one in

the 7th week.

In two of the cases which recovered the hemorrhage was slight and in three it was considerable. In no case could it be called severe R.E. amounting to three or four pints.

It could not be said that in any case the patient seemed better after the hemorrhage and in one or two instances it brought about a condition of great weakness from which recovery was slow.

The cases which proved fatal most rapidly were those in which the first evidence of hemorrhage was a clot of blood at the anus, and following shortly after, repeated flushes of pure blood. One such case occurred in a

boy of ten years on the 13th day of illness, and death took place within 6 hours of the first appearance of hemorrhage.

The treatment which was usually adopted and which was thought most effective, was, the application of ice-bags to the abdomen with the internal administration of lead and opium, and ergot in large doses frequently.

Pneumonia occurred in nine cases in four of which the patient died. It was met with in the 2nd week in one case in the 3rd week in three, in the 4th week in three and once each in the 5th and 9th weeks.

In two cases it occurred during the first week of convalescence

The expectoration was rarely noted as rusty. More often it consisted of florid blood or blood slightly mixed with mucus. Respiratory distress was not often great even though the physical signs in the lung were well marked.
Of the four cases which died it was only in two that the pneumonia seemed to cause death directly. One of the cases which recovered was a girl 5 years old in which there was well marked double pneumonia.

Pleurisy was noted in three cases and one of these died from empyema. The other two recovered. In neither of them was there any evidence of pleuritic effusion. The pleurisy was ushered in by

severe rigors, and pain was complained of but the attack did not seem to interrupt or prolong the course of the fever

The patient who died from emphysema was a man aged 50 years, admitted to the Hospital on 7th January 1884, having taken ill ten days before that, with repeated shiverings and sickness. There had also been some looseness of the bowels.

When admitted he was quite sensible and made no special complaint of anything. The abdomen was somewhat full and on it and on the back were some characteristic rose-spots

He said he had suffered from sorethroat since the 7th day of his illness and on examination a shallow ulcer was found on

the left tonsil extending on to the uvula. Examination of the chest revealed nothing but the presence of some sibilant râles.

On the 15th Inst. the temperature began to fall gradually and by the 17th (20th day of illness) it had reached normal and the patient was apparently convalescent. The throat symptoms had quite disappeared.

On the evening of the 20th Inst., however, the temperature rose suddenly to 103° and on the following morning to 106·2°.

There was no complaint of anything in particular and physical examination of the chest or elsewhere failed to account for the pyrexia. Thirty grains of Quinine were ordered, in three doses, and by the end of nine

hours the temperature had fallen to normal.
Next night (27th Jan.) the temperature was only 99°. but on examining the back, slight comparative dulness was found at the base of the right lung with some crepitus over the dull area. There was some slight mucopurulent expectoration.
On 28th Jan patient had a rigor accompanied by a paroxysm of coughing and the temperature rose to 104·6°. The signs in the lung were now more marked and there was distinct fine crepitus over the right base.
On Jan 29th there was a sudden access of dyspnoea and pain in the side. Temperature was 105°. The dulness over the right lung had become even more marked

and the râle had disappeared leaving a faint respiratory murmur. The sounds of the heart were feeble but free from murmur.

During the next few days the temperature continued high and there were evident signs of a large collection of fluid in the right pleural cavity.

On Feb 11th a fly-blister was applied to the right side of the chest and on Feb 16th. while patient was sitting up to have his shirt changed he suddenly fell back and expired.

At the post mortem examination a large collection of pus was found in the right pleural cavity occupying principally its posterior part, the right lung being adherent to the chest

wall in front. The left lung was somewhat emphysematous but otherwise normal. The spleen was soft and in the small intestine were a few cicatrices of what had evidently been enteric ulcers.

Tubercular disease was observed to follow Enteric fever in at least two instances. In a third case the patient died from symptoms extremely suggestive of tubercle, but a post mortem examination could not be obtained.

The patient, a lad of 19, had well marked enteric fever and did well until the 22nd day of illness, when he began to have severe rigors. These were associated with very high temperature and continued

at intervals for about a weeks.

Examination of the chest revealed dulness with moist crackling râles at the apex of the right lung. There was also distinct pericardial friction. He had also some haemoptysis.

The temperature continued high and the patient gradually sank till death took place at the end of seventeen days after the first shivering.

In another case which died the diagnosis of tubercle was confirmed by post mortem examination.

The patient, a girl aged 19, had a protracted but uncomplicated attack of enteric fever. The temperature fell about the end of the sixth week and she then appeared to be convalescent

The temperature rose again, however, in about ten days, and she was thought to be having a relapse. The febrile symptoms continued until her death which took place nine weeks after.

During that time little could be made out of her condition. Her lungs were examined repeatedly without anything particular being discovered, except weakness of the respiratory murmur. Towards the end of her illness she became melancholic and had hallucinations. This condition changed for one of excitement of a pleasurable description, and finally she sank into a state of coma. It was then evident that she had meningitis.

At the post mortem examination tubercles were found studding

the lungs, peritoneum and meninges of the brain. The intestines were glued together by adhesions, but there was an entire absence of anything like fresh ulceration of the mucous surface of the bowel. There were, however, depressed and pigmented cicatrices in the lower part of the ileum.

The third case also occurred in a young woman aged 17, who had a well marked attack of enteric fever and convalesced at the end of three weeks.

A week or two after this the temperature began to rise, she had some cough and on examining the chest dull percussion was found at the apex of the right lung with some clicking râles.

The case was dismissed from

the Hospital.

Embolism occurred in at least two cases in both of which the diagnosis was confirmed by post mortem examination.

The first case was that of a man aged 48, admitted on Dec 9th 1883, with well marked Enteric fever, on the 9th day of his illness.

It was a sharp case with rather high temperatures, and for some days after admission he had very severe headache. This however, could always be relieved by the cold douche. Nothing remarkable occurred till 25th Dec, (25th day of illness) when he was seized with pain in the right side, and had some expectoration which had somewhat of the

"Austin" character but differed from the ordinary pneumonic [illegible] in being more sanguineous
Examination of the lungs revealed a small area of dull percussion at the base of the right lung, over which there were fine crepitant râles.
From this time he gradually became weaker, the bloody expectoration and signs of pulmonary consolidation persisting. Nothing remarkable was noted about the heart, except weakness of the pulse.
On 31st Dec. he was seized with trismus of the jaws and on the following day he died.
Shortly before death he had some spasmodic twitchings of the hands and feet.
At the post mortem examination

the heart was found normal and free from thrombi. There was hypostatic congestion at the bases of both lungs, but in addition to this there was, in the lower lobe of the right lung, a wedge shaped infarction of tolerably firm consistence. The spleen was much enlarged and soft and there were numerous dark ulcers in the ileum. There are no notes of the condition of the kidneys.

The second case was that of a woman aged 34, admitted on Nov. 9th 1883, on the 7th day of her illness, with characteristic rose spots and the usually history of enteric fever.

She had a somewhat protracted attack, and during convalescence

was troubled with a cough.
Nothing particular, however,
was discovered in the lungs.
On 26th Dec after the temperature
had been normal for some
time, she was suddenly seized
with pain in the right foot.
On examination it was found
to be cold, waxy in appearance,
and nearly destitute of sensation.
The pulse could not be felt
at the right ankle. The pulse
at the wrist was weak, as were
also the heart sounds, which
were, however, free from murmurs.
Some stimulant with small
doses of opium were ordered,
and the foot was wrapped
in cotton wool and kept warm
by means of hot jars.
On the following day the
distal extremity of the right

great toe was quite black.
The rest of the foot was
cold but not discoloured.
During the next few days the
second and third toes also
became discoloured but there
was no sign of resication or
anything like a line of
demarcation. The foot remained
cold except when artificial
heat was applied, and the pain
continued severe.
The patient gradually became
weaker and died on 31st Dec.
five days after the first signs
of gangrene had appeared.
The gangrenous parts were quite
free from smell.
On post mortem examination
the body was found emaciated
and the first, second, and third
toes of the right foot, double

coloured
In the heart a single large adherent thrombus was found in the left ventricle. There was no valvular lesion
Both lungs were congested at their bases and on the left side there was an infarction.
The spleen was not much enlarged. Its lower part was broken down and consisted of a semi fluid cheesy looking substance held together by the capsule.
The liver was normal.
The kidneys were small and irregular on the surface. In their substance were numerous pale infarctions, each with a red areola.
There was no fresh ulceration in the intestine but in the

lower part of the ileum were one or two well marked cicatrices. The right femoral artery was cut down upon and found to contain a firm clot adherent to the walls of the vessel and extending from the commencement of Hunter's canal to the bifurcation of the artery in the popliteal space.

It was evident that in this case numerous embolic infarctions had been taking place, but none of them were recognised during life except the one in the femoral artery.

Murchison (Lancet Oct 13: 1877) reports a somewhat similar case, in which on the 49th day of illness, the right foot and leg became cold, and shortly afterwards gangrene set in.

the leg was amputated and the patient, a man, was recovering at the time the report was published.

Four cases of oedema of the foot were noted, which seemed to be due to the occurrence of thrombosis of the veins.
In all four cases the complication took place at a late period of the disease, the days of illness being the 35th 38th 42nd and 69th respectively.
In each case it was the left limb which was affected.
There was, as a rule, a considerable amount of pain accompanying the swelling, and felt both in the thigh and in the calf. In two cases there

was, besides this, marked hyperaesthesia of the foot and leg. Elevation of the temperature was noted in only two out of the four cases.

In one case the oedema was remarkably persistent, lasting for about two months, during which time the temperature was normal, and the patient otherwise quite well.

Out of the four cases only one was fatal, and here death occurred sometime after the swelling had disappeared.

The treatment which was found most effectual in relieving the symptoms was the elevation of the limb on a couple of pillows, and strict confinement to bed.

Oedema of both feet occurring

in convalescence, usually a day or two after the patient had got up, and unaccompanied by pain or constitutional disturbance, was found in a good many instances, mostly in cases where the duration of the disease had been protracted.
It was probably due to simple weakness of the circulation

Erysipelas occurred in five cases, two of which were fatal.
In three cases, in which it occurred on the face (2 of them fatal) it came on after repeated hemorrhage from the bowel, on the 26th, 53rd, and 57th day of illness, respectively.
The appearance of the affected

skin was not exactly like that in ordinary erysipelas. The skin was raised, waxy looking and pink rather than red in colour. In those cases in which it occurred on the face, there was no actual sore but in one of them the nose had been rendered painful by the patient picking it with his fingers. In the other two cases the erysipelas appeared first as a raised patch on the forhead, not unlike a large urticaria wheal, and from thence spread over the rest of the face.

In one case it occurred on the back and evidently arose from a bedsore on the sacrum. This was one of those which recovered.

In another case facial erysipelas appeared during convalescence and seemed to be due to the patient exposing herself to a cold draught.

In two cases, bedsores which had evidently an origin of a trophic nature, occurred. One of these recovered, the other was fatal.

The first case was an ordinary one of Enteric fever with characteristic symptoms and rash, admitted on Dec. 15. 1884 on the 12th day of his illness.

On the day following admission he had a copious hemorrhage from the bowel and this was repeated at frequent intervals during the next four days, leaving the patient much blanched and very

weak. At this time and indeed all through the case, the intelligence remained quite clear and there was nothing pointing to cerebral disturbance.

On Dec 21st, however, (15th day of illness) there was complete retention of urine, necessitating the use of a catheter.

This condition persisted obstinately for the next few days and then gave place to incontinence.

Along with this there was some cystitis. There was also extreme tympanitis which was partially relieved by puncture

On 29th Dec (21st day of illness) some vesicles appeared over the anterior superior spine of the ilium and also over the dorsum of the ilium on the same side. These were filled with straw

coloured fluid and were surrounded by an inflammatory areola, presenting an appearance similar to that produced by a scald. Two days later they had become converted into sores with black eschars for their bases, and some fresh vesicles had developed on the left side on the outside of the thigh and also one on the outside of the right elbow-joint. A vesicle of similar appearance showed itself over the coccyx.

In none of these positions except the last one, were the parts exposed to pressure for the patient invariably lay on his back. Neither was the skin irritated by urine or other fluid

The patient died from another hemorrhage on Dec 29th (28 days ill)

the sores remaining as described above

The second case was also one of well marked enteric fever and occurred in a boy aged 17 admitted on Feb 1st 1886 on the 7th day of illness. He had, however, distinct cerebral symptoms which led to the suspicion that he was suffering from meningitis. The eyes were fixed and had a vacant stare, the pupils being widely dilated. There was rigidity of the arms but no actual paralysis. Tache cérébrale was well marked. There was complete retention of urine and the patient seemed to take little notice of what was going on. In a few days it became clear, by the occurrence of rose spots and pea soup motions that the

patient had at least enteric fever whatever else might be wrong.

On 9th Feb. (16th day of illness) the cerebral symptoms had become less marked and the patient was able to answer questions in a half intelligent manner.

At this time there appeared over both feet and legs various patches of congested skin, with, in some places, the epidermis raised so as to form a blister. These occurred on the front of the shin, on the dorsum of the foot, on the head, and on the plantar surface of some of the toes. At first it was supposed that they had been produced by the pressure of one leg lying over the other, but their occurrence

in some of the positions was quite inconsistent with this idea.

The blisters, when formed, were filled with a dark purple coloured fluid. On the leg and dorsum of the foot the vesicles burst, leaving an abraded surface, but on the heel and toes, where the epidermis was thick, the blisters remained unbroken and after convalescence had been completely established, persisted as round black spots about the size of a half crown on the heel and of a sixpence on the toes.

About the same time as those formed a profuse crop of pustules came out over the buttocks and extended down the posterior surface of the thighs; a week or two later the same thing occurred over the left scapular region.

The pustules gave rise to ulcers in only a few cases; in the rest they dried up and formed thick crusts
The temperature did not become quite normal till the 35th day of illness and it was not till then that the sores showed much disposition to heal.
For a long time the patient remained very childish in manner and seemed to have lost the control of his bladder, as he constantly passed water in bed
He ultimately made a good recovery.

One case of <u>Carcinum iris</u> occurred in a badly nourished female child aged 6½ years, who was sent from the Town Hospital with enteric fever
The first sign of Gangrene

was an ulcer on the inside of the right cheek appearing in the 3rd week of illness. With this there was some swelling and tension of the cheek. About a week after, a black spot appeared on the outside of the cheek and this increased in size rapidly until it involved the greater part of the cheek including the angle of the mouth.

An ulcerative process then began at the edge of the slough which partially separated it from the sound skin. The separation was completed by cutting with scissors and the slough was removed. This left both upper and lower jaws exposed and evidently beginning to necrose. The left cheek then began to ulcerate in the same way as

the right had done, a black spot appearing on the outside shortly after. Death took place before the process had extended far on this side

The child lived about fourteen days after the first appearance of the gangrene on the right side and during this time the intelligence remained quite clear, and she was able to drink butter freely

The temperature for a day or two before death was very high reaching 105.6° on the day that she died.

Green (Medical Times, Jan. 15 1880) reports a somewhat similar case in which the ulcer was first noticed on the 28th day of illness. The upper and lower jaws were affected by ulceration, and the patient, a boy

aged 9 years, died on the 5th day of illness.

Parotitis was observed in two cases.

One, a boy of 6 years admitted on Jan 12th 1883 with rather obscure symptoms but said to have been ill for six days.

A slight fulness was noticed at the angle of the jaw on the right side on Jan 14th (5th day of illness). This rapidly increased so as to form a hard painful swelling in front of and below the ear. The temperature continued very high but irregular and the pulse was weak. The boy died three days after the first appearance of the parotitis, which seemed to have a considerable share in bringing about the fatal event.

On post mortem examination the characteristic lesions of enteric fever were found, and on cutting into the swelling on the right side of the face, the parotid was found much enlarged, firm and exuding a dark sanious fluid.

The other case occurred in a man aged 26, admitted on the 9th day of his illness with symptoms of enteric fever but without any rash.

On admission there was a considerable swelling in the region of the parotid on the left side, and this the patient said he had not seen on the day previous. The swelling increased rapidly and on the following day the same thing was noticed on the right side.

The temperature was very high and the patient delirious.
A few days after this, both swellings became fluctuant and were incised. but much pus escaped at the time, but next day some dead tissue and a good deal of pus came away. After this the patient began to improve. He is now doing well but the temperature is not quite normal yet. (March 1885)

An interesting case of paralysis occurred which was evidently of spinal origin.
The following is extracted from the ward journal.
James W— aged 75, Smith, Admitted Nov. 8th 1883 on the 7th day of his illness.
He took ill with shivering, headache

and severe abdominal pain.
The bowels were slightly relaxed and on one or two occasions he had bleeding from the nose.
When admitted, he was quite sensible. Temperature was 104·6°
Pulse was full and easily compressible. Tongue slightly furred.
No rose spots were discovered but there were numerous taches bleuâtres over the chest, abdomen and back

Nov 9th

Has had three loose motions since yesterday.
Morning temperature 103·8° Evening 103·6°

Nov 10th

Early this morning patient had a sensation of stiffness in his left leg, and by the middle of the day there was complete paralysis of both lower limbs

with diminished sense of touch.
There had been no severe pain
in the back or limbs.
He was unable to raise himself
in bed, or to turn himself.
In the afternoon his arms became
partially paralysed and the
thoracic muscles of respiration
ceased to act, breathing being
evidently accomplished solely by
the diaphragm.
There was slight drooping of the
right eyelid with external strabismus
of the right eye.
In a short time he seemed
unable to speak or to swallow.
At 9 P.M. there was complete
paralysis and anaesthesia of the
lower limbs and partial of the
upper.
The breathing was going on
as before.

Patient was then quite sensible and able to speak and to swallow Morning temperature 102.6 Evening 105°. A spinal ice bag was applied in the afternoon.

Nov. 11th

Patient continues in much the same condition as before.

Complete paralysis of the lower limbs with anaesthesia and insensibility to sensation of cold or heat are present. Cutaneous reflexes are absent. Sensation is absent over the trunk below the level of the iliac and depressions above this. The paralysis of the arms is only partial. They can be moved a little from the shoulder and resistance is made when the forearm is forcibly extended

There seems to be nearly absolute anaesthesia over the arms.
Breathing is extremely laboured.
Patient can still speak a little.
He puts out his tongue when asked and can swallow though with difficulty.
Occasional twitchings of the eyelids were observed.
There is complete retention of urine and the bowels are passed involuntarily. The motions are pale but not very loose.
Morning temperature 101°.
Liquid extract of ergot was prescribed in 10 minim doses every three hours.
At night patient became unconscious. The breathing was even more laboured than before and it was with the greatest difficulty

that he could be made to swallow.

Nov 12th Temperature this morning was 101°

At 9 A.M. patient gradually sank and died.

Post mortem examination Nov 13th

Nothing remarkable in the external appearance except the persistence of the tache bleuâtre over abdomen and thighs.

Heart normal.

Lungs congested and congested.

Spleen about three times its natural size.

Liver normal.

The small intestine contains a large quantity of clotted blood, and just above the ileo-colic valve

The agminated glands are much thickened. There is, however, no distinct ulceration. The mesenteric glands are also enlarged.

There is nothing abnormal in the naked eye appearance of the brain.

A small part only of the spinal cord was examined, opposite the dorsal vertebrae, and here also nothing remarkable could be discovered by the naked eye.

Relapse occurred in 8 out of the 750 cases.

The longest period after the primary attack at which it occurred was 17 days, the shortest 5 days, the usual time being about the 10th day.

The average duration of the

relapse was 12½ days.
A second relapse was noted in only one case. It occurred 10 days after convalescence from the first and lasted 18 days.
In none of these cases was there any suspicion of the relapse being brought about by indiscretion in diet.
Most of the cases had had no solid food in the interval.

A distinct scarlatina form rash was noted in 17 cases. It was very punctated and partook more of the character of an erythema. It was most frequently seen on the chest and abdomen alone, but occasionally on the arms and legs as well.
With it there was often slight

congestion of the fauces, and two such cases were sent into the Hospital as Scarlet fever. Both were severe cases of enteric and both ultimately died.

The time of occurrence of this rash was very variable, having been seen as early as the 3rd day of illness and as late as the 21st. Sometime it was fleeting and was seen only for a day or two but in other cases it persisted for a week or more, or disappeared and came out again later on in the fever or at the beginning of a relapse.

It was followed in many cases by a fine branny desquamation

Rashes bleuâtres were noted in 17 cases, 4 of which were fatal

Many of the cases not fatal were severe.
They were often seen before the rose spots and were noted as early as the 5th day of illness.